REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicant asserts that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-5, 9-10, 18-19 and 25-26 are pending.

Claims 1-5, 9-10, 18-19 and 25-26 were rejected.

Claim 1 was amended. Applicant respectfully asserts that the amendments do not add any new matter.

CLAIM REJECTIONS

35 U.S.C. § 103 Rejections

Claims 1-5 and 10 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Mitsumori et al. (US 2001/0037819, hereinafter "Mitsumori").

Claim 9 was rejected under 35 U.S.C. § 103(a), as being unpatentable over Mitsumori and further in view of Skeidsvoll et al. (US 2005/0081881, hereinafter "Skeidsvoll").

Claims 18 and 19 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Mitsumori and further in view of Drzal et al. (US 2002/00129833, hereinafter "Drzal").

Claims 25 and 26 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Mitsumori and further in view of Boquillon et al. (US 5,151,134 hereinafter "Boquillon").

Applicants respectfully traverse the rejections in view of the remarks that follow. The Office action acknowledged that Mitsumori does not explicitly teach that the ultraviolet light directed into the quartz pipe functions to disinfect the liquid, but contends that "it is reasonably expected that the ultraviolet light will function to disinfect the liquid" (Office action, section 13).

Applicants respectfully disagree. UV light destroys or inactivates (makes irreproducible) microorganisms within the liquid. If the UV light actually disinfects the liquid, however, depends on the amount of exposure of the contaminated liquid to the UV light radiation. For Example, the NSF/ANSI 55 Standard requires a UV dose equivalent to at least 40 mWs/cm^3 for "class A" systems.

Claim 1 was amended to include "length of the pipe is designed to enable an exposure period of the liquid to the ultraviolet energy that disinfects the liquid before exiting the pipe". Mitsumori discloses a washing treatment system having a unique nozzle arrangement for treating surfaces. Applicant respectfully assert that the washing system is not a UV disinfect ion system and that does not teach or suggest the above recited element of claim 1.

Support for the amendment can be found at least at page 16, lines 15-19 of the application as filed.

Further, the Office action acknowledged that Mitsumori does not explicitly teach that the body of the crossing section contains quartz. Even if this area would contain quartz the liquid within this area cannot be considered as a liquid light guide, as claimed by claim 1. The light is directed via external windows into the cross sectional area and the treated area and is not reflected back into the cross sectional area by any side walls.

A liquid light guide is a device that is designed to transport light from the source to a distant target with a minimal loss using Total Internal Reflection. The liquid-quartz-air interface reflects the light rays into the liquid again and again (Total internal reflection) and guides them within the pipe provided that the rays hit the walls at a certain angle which is larger that the critical angle for total internal reflection.

Accordingly, Applicants assert that Mitsumori does not teach or suggest at least "providing a stream of liquid having a predetermined flow rate, wherein the liquid is streamed within a quartz pipe surrounded by air, the liquid within the quartz pipe acts as a light guide and the length of the pipe is designed to enable an exposure period of the liquid to the ultraviolet energy that disinfects the liquid before exiting the pipe", as recited by amended claim 1.

Therefore, Applicants assert that independent claim 1 and claims 2-5, 9-10, 18-19 and 25-26 dependent there from are allowable over Mitsumori.

Likewise, none of the additional cited references, Skeidsvoll, Drzal, and Boquillon, teaches or suggests, and the Examiner does not assert that any of these references

teaches or suggests, at least, "providing a stream of liquid having a predetermined flow rate, wherein the liquid is streamed within a quartz pipe surrounded by air, the liquid within the quartz pipe acts as a light guide and the length of the pipe is designed to enable an exposure period of the liquid to the ultraviolet energy that disinfects the liquid before exiting the pipe", as recited by amended claim 1.

Accordingly, claim 1 and its dependent claims are allowable over any combination of the cited references. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-5, 9-10, 18-19 and 25-26 under 35 U.S.C. § 103(a).

CONCLUSION

In view of the foregoing amendments and remarks, Applicant asserts that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested. Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,

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